

1 What is claimed is:

2  
3 1. A structuring method, including photolithographically  
4 exposing a pattern comprising at least a first pattern  
5 portion and a second pattern portion onto a surface, said  
6 surface comprising at least a first surface portion at  
7 which a tangential plane to the surface extends in a first  
8 plane and a second surface portion at which a tangential  
9 plane to the surface extends in a second plane not

10 coinciding with the first plane, the method comprising  
11 a first exposure step, in which the first pattern  
12 portion is exposed, therein being focused into a first  
13 focal plane, and

14 a second exposure step, in which the second pattern  
15 portion is exposed, therein being focused into a second  
16 focal plane which is different from the first focal plane.

17  
18 2. The method according to claim 1, wherein the first  
19 focal plane and the second focal plane are mutually  
20 parallel.

21  
22 3. The method according to claim 1, wherein the first  
23 focal plane extends parallel to the first plane.

24  
25 4. The method according to claim 1, wherein the second  
26 focal plane extends parallel to the second plane.

27  
28 5. The method according to claim 1, wherein  
29 the first pattern portion and the second pattern  
30 portion are exposed such that they at least partly overlap  
31 on the surface.

32  
33 6. The method according to claim 1, wherein the first  
34 exposure step and the second exposure step are performed  
35 subsequently.

1 7. The method according to claim 1, wherein the distance  
2 perpendicular to the first or second focal plane between  
3 the first focal plane and the second focal plane is 150  
4  $\mu\text{m}$ .

5  
6 8. A structuring method, including photolithographically  
7 exposing a pattern comprising at least a first pattern  
8 portion and a second pattern portion onto a surface, said  
9 surface comprising at least one planar top face extending  
10 in a first plane, one planar bottom face extending in a  
11 second plane being parallel to and not coinciding with the  
12 first plane, and a sloping step face connecting the top  
13 face and the bottom face, the method comprising

14 a first exposure step, in which the first pattern  
15 portion is exposed onto the top face and at least part of  
16 the sloping step face, with the first pattern portion  
17 being focused into a first focal plane, and

18 a second exposure step, in which the second pattern  
19 portion is exposed onto the bottom face and at least part  
20 of the sloping step face, with the second pattern portion  
21 being focused into a second focal plane different from the  
22 first focal plane.

23  
24 9. The method according to claim 8, wherein the first  
25 focal plane and the second focal plane are mutually  
26 parallel.

27  
28 10. The method according to claim 8, wherein the first  
29 focal plane extends parallel to the first plane.

30  
31 11. The method according to claim 8, wherein the second  
32 focal plane extends parallel to the second plane.

33  
34 12. The method according to claim 8, wherein  
35 the first focal plane is spaced closer to the first  
36 plane than the second focal plane is, and  
37

1 the second focal plane is spaced closer to the second  
2 plane than the first focal plane is.

3  
4 13. The method according to claim 8, wherein  
5 the first focal plane coincides with the first plane,  
6 and the second focal plane coincides with the second  
7 plane.

8  
9 14. The method according to claim 8, wherein  
10 the first focal plane coincides with the first plane  
11 or the second focal plane coincides with the second plane.

12  
13 15. The method according to claim 8, wherein  
14 the first pattern portion and the second pattern  
15 portion are exposed such that they at least partly overlap  
16 on the surface.

17  
18 16. The method according to claim 8, wherein the first  
19 exposure step and the second exposure step are performed  
20 subsequently.

21  
22 17. The method according to claim 8, wherein the distance  
23 perpendicular to the first or second focal plane between  
24 the first focal plane and the second focal plane is 150  
25  $\mu\text{m}$ .

26  
27 18. The method according to claim 8, wherein two  
28 different masks are used to expose the first pattern  
29 portion and the second pattern portion, respectively.

30  
31 19. The method according to claim 8, further comprising,  
32 after the first and the second exposure step,  
33 a deposition step, in which a conductive material is  
34 deposited to the surface and further treated, if  
35 necessary, so as to generate a conductive structure made  
36 of conducting material and having a shape which  
37 corresponds to the shape of the pattern.

1 20. A structuring method, including photolithographically  
2 exposing a pattern comprising at least a first pattern  
3 portion and a second pattern portion onto a surface, said  
4 surface comprising at least one planar top face extending  
5 in a first plane, one planar bottom face extending in a  
6 second plane being parallel to and not coinciding with the  
7 first plane, and a sloping step face connecting the top  
8 face and the bottom face, the method comprising

9 a first exposure step, in which the first pattern  
10 portion is exposed onto the top face and at least part of  
11 the sloping step face, with the first pattern portion  
12 being focused into a first focal plane,

13 a second exposure step, in which the second pattern  
14 portion is exposed onto the bottom face and at least part  
15 of the sloping step face, with the second pattern portion  
16 being focused into a second focal plane different from the  
17 first focal plane, and

18 at least one further exposure step, wherein  
19 in the further exposure step, a further pattern  
20 portion is exposed onto at least part of the sloping step,  
21 with the further pattern portion being focused into a  
22 further focal plane.

23  
24 21. The method according to claim 20, wherein at least  
25 two out of the first focal plane and the second focal  
26 plane and the further focal plane/s are mutually parallel.

27  
28 22. The method according to claim 20, wherein at least  
29 one focal plane out of the first focal plane and the  
30 second focal plane and the further focal planes extends  
31 parallel to the first or second plane.

32  
33 23. The method according to claim 20, wherein  
34 the first focal plane is spaced closer to the first  
35 plane than the second focal plane is, and  
36 the second focal plane is spaced closer to the second  
37 plane than the first focal plane is.

- 1 24. The method according to claim 20, wherein  
2 the first focal plane coincides with the first plane,  
3 and the second focal plane coincides with the second  
4 plane.  
5
- 6 25. The method according to claim 20, wherein  
7 the first focal plane coincides with the first plane  
8 or the second focal plane coincides with the second plane.  
9
- 10 26. The method according to claim 20, wherein  
11 the further focal plane/s is/are located between the  
12 first focal plane and the second focal plane.  
13
- 14 27. The method according to claim 20, wherein  
15 pattern portions resulting from different exposure  
16 steps out of the first, second and further exposure steps  
17 and being adjacent on the surface at least partially  
18 overlap.  
19
- 20 28. The method according to claim 20, wherein  
21 pattern portions resulting from different exposure  
22 steps out of the first, second and further exposure steps  
23 and being adjacent on the surface have an overlap of from  
24 1 to 5  $\mu\text{m}$ .  
25
- 26 29. The method according to claim 20, wherein at least  
27 two out of the first exposure step, the second exposure  
28 step, and the further exposure step/s are performed  
29 subsequently.  
30
- 31 30. The method according to claim 20, wherein the  
32 distance perpendicular to the first or second focal plane  
33 between the first focal plane and the second focal plane  
34 is 150  $\mu\text{m}$ .  
35
- 36 31. The method according to claim 20, wherein a different  
37 mask is used to expose each of the first pattern portion,

1 the second pattern portion, and the further pattern  
2 portion/s, respectively.

3  
4 32. The method according to claim 20,

5 wherein the first pattern portion and the second  
6 pattern portion are exposed such that they at least partly  
7 overlap on the surface, and,

8 further comprising, after the first and the second  
9 exposure step, a deposition step, in which a conductive  
10 material is deposited to the surface so as to generate a  
11 conductive structure made of conducting material and  
12 having a shape which corresponds to the shape of the  
13 pattern.

14  
15 33. A structuring method, including photolithographically  
16 exposing a pattern comprising at least a first pattern  
17 portion and a second pattern portion onto a surface  
18 extending in a surface plane and being structured

19 perpendicular to the surface plane, the method comprising  
20 a resist coating step, in which the surface is coated  
21 by a photosensitive resist,  
22 a first exposure step, in which the first pattern  
23 portion is exposed into the resist, therein being focused  
24 into a first focal plane,

25 a second exposure step, in which the second pattern  
26 portion is exposed into the resist, therein being focused  
27 into a second focal plane which is different from the  
28 first focal plane,

29 a development step, in which the exposed resist is  
30 developed so as to transfer the pattern into the resist,  
31 and

32 a deposition step, in which a conductive material is  
33 deposited to the surface and further treated, if  
34 necessary, so as to generate a conductive structure made  
35 of conducting material and having a shape which  
36 corresponds to the shape of the pattern.

37

1 34. A structuring method, including photolithographically  
2 exposing a pattern comprising at least a first pattern  
3 portion and a second pattern portion onto a surface  
4 extending in a surface plane and being structured  
5 perpendicular to the surface plane, the method comprising  
6 a deposition step, in which a conductive material is  
7 deposited to the surface,  
8 a resist coating step, in which the surface is coated  
9 by a photosensitive resist,  
10 a first exposure step, in which the first pattern  
11 portion is exposed into the resist, therein being focused  
12 into a first focal plane,  
13 a second exposure step, in which the second pattern  
14 portion is exposed into the resist, therein being focused  
15 into a second focal plane which is different from the  
16 first focal plane,  
17 a development step, in which the exposed resist is  
18 developed so as to transfer the pattern into the resist,  
19 and  
20 an etching step, in which the exposed material not  
21 covered by the resist is etched.

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